Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

49. (Currently Amended) A gas stream vortex mixing system for mixing a gas stream, the gas stream vortex mixing system comprising:

a duct provided with an inner surface defining a passageway for communicating a gas stream;

a wing having a first end, a second end, a upper surface, and a lower surface, wherein ~~and a uniform thickness between the upper and lower surfaces extending from the first to the second ends of the wing,~~ the wing is non-movably coupled within the passageway of the duct and configured to shed a vortex in the gas stream at an edge of the second end of the wing~~; and~~, the first end and second end extend into the passageway, the first end positioned upstream of a direction of travel of the gas stream, and the second end positioned downstream of the direction of travel of the gas stream; and

a nozzle to discharge a mixture into the gas stream ~~passageway~~, the nozzle located adjacent the edge of the second end of the wing such that the nozzle discharges the mixture into the vortex in the gas stream at a point wherein the vortex is shed ~~by the edge of the second end of the wing~~.

50. (Currently Amended) The gas stream vortex mixing system of Claim 49, wherein the nozzle is positioned to discharge the mixture in [[a]]the direction of travel of the gas stream through the passageway of the duct to promote mixing of the mixture with the gas stream.

51. (Currently Amended) The gas stream vortex mixing system of Claim 49, wherein the nozzle is positioned to discharge the mixture in [[a]]the direction substantially opposite [[a]] the direction of travel of the gas stream through the passageway of the duct to promote mixing of the mixture with the gas stream.

52. (Currently Amended) The gas stream vortex mixing system of Claim 49, wherein

the wing is a plurality of wings, each of the plurality of wings having a first end, a second end, and an [[a]] upper surface, wherein ~~a lower surface and a uniform thickness between the upper and lower surfaces extending from the first to the second end thereof,~~

the plurality of wings are non-movably coupled within the passageway of the duct,

each of the plurality of wings are configured to shed a vortex at an edge of the second end thereof,

each of the first ends and the second ends of the plurality of wings extend into the passageway,

each of the first ends are upstream of a direction of travel of the gas stream, and

each of the first end and the second end are downstream of a direction of the direction of travel of the gas stream; and

a plurality of nozzles to discharge the mixture into the passageway, each of the plurality of nozzles located adjacent the edge of the second end of one of the plurality of wings such that each of the nozzles discharge the mixture into the vortex at a point wherein the vortex is shed ~~by the edge of the second end of the plurality of wings~~.

53. (Previously Presented) The gas stream vortex mixing system of Claim 49, wherein the second end of the wing is provided with a second edge configured to shed a second vortex at the second edge of the second end of the wing and wherein the gas stream vortex mixing system further comprises:

a second nozzle to discharge the mixture into the passageway, the second nozzle located adjacent the second edge of the second end of the wing such that the second nozzle discharges the mixture into the second vortex at a point wherein the second vortex is shed by the second edge of the second end of the wing.

54. (Previously Presented) The gas stream vortex mixing system of Claim 49, wherein the wing is non-moveably coupled to the inner surface of the duct at a lift generating angle of attack such that the first end of the wing is positioned substantially upstream a direction of travel of the gas stream through the passageway and such that the second end of the wing is substantially down stream of the direction of travel of the gas stream through the passageway.

55. (Currently Amended) The gas stream vortex mixing system of Claim 54, further comprising a second wing having a first end, a second end, an upper surface, and a lower surface ~~and a uniform thickness between the upper and lower surfaces extending from the first to the second end of the second wing~~, the second wing non-movably coupled within the passageway of the duct and configured to shed a vortex at an edge of the second end of the second wing, and wherein second wing is non-moveably coupled to the inner surface of the duct at a lift generating angle of attack such that the first end of the second wing is positioned substantially upstream the direction of travel of the gas stream through the passageway and such that the second end of the second wing is substantially down stream of the direction of travel of the gas stream through the passageway; and

a second nozzle to discharge a mixture into the passageway, the second nozzle located adjacent the edge of the second end of the second wing such that the second nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the second wing.

56. (Previously Presented) The gas stream vortex mixing system of Claim 55, wherein the wing and the second wing are coupled to the inner surface of the duct such that the first ends of the wing and the second wing are located substantially along a plane perpendicular to the direction of travel of the gas stream through the passageway of the duct.

57. (Previously Presented) The gas stream vortex mixing system of Claim 56, wherein the upper and lower surfaces of the wing defines an upper and lower arcuate shapes of the wing extending from the first end to the second end of the wing and wherein the upper arcuate shape of the wing is substantially similar to the lower arcuate shape of the wing.

58. (Currently Amended) A gas stream vortex mixing system for mixing a gas stream, the gas stream vortex mixing system comprising:

a duct provided with an inner surface defining a passageway for communicating a gas stream;

a first wing having a first end, a second end and configured to shed a vortex at an edge of the second end of the first wing, the first wing non-movably coupled within the passageway of the duct such that the first end of the first wing <u>extends into the passageway and</u> is positioned along a plane within the passageway of the duct, the plane substantially perpendicular to a direction of travel of the gas stream through the passageway;

a second wing having a first end, a second end and configured to shed a vortex at an edge of the second end of the second wing, the second wing non-movably coupled within the passageway of the duct such that the first end of the second wing <u>extends into the passageway and</u> is positioned along the plane within the passageway of the duct substantially perpendicular to the direction of travel of the gas stream through the passageway;

a first nozzle to discharge a mixture into the passageway, the first nozzle located adjacent the edge of the second end of the first wing such that the first nozzle discharges the mixture into the vortex at a

point wherein the vortex is shed by the edge of the second end of the first wing; and

a second nozzle to discharge a mixture into the passageway, the second nozzle located adjacent the edge of the second end of the second wing such that the second nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the second wing.

59. (Previously Presented) The gas stream vortex mixing system of Claim 58, wherein the duct further include a plurality of walls and wherein the first and second wings are non-moveably coupled to a first and second opposing walls, respectively, within the duct along the same plane in the passageway.

60. (Currently Amended) The gas stream vortex mixing system of Claim 59, wherein the first and second wings are further defined as cambered wings.

61. (Currently Amended) The gas stream vortex mixing system of Claim 59, wherein the first and second wings are non-moveably coupled to the inner surface of the duct at a lift generating angle of attack such that the first ends of the first and second wings are positioned substantially upstream the direction of travel of the gas stream through the passageway and such that the second ends of the first and second wings are substantially down stream of the direction of travel of the gas stream through the passageway.

62. (Previously Presented) The gas stream vortex mixing system of Claim 58, further comprising:

a third wing having a first end, a second end and configured to shed a vortex at an edge of the second end of the third wing, the third wing non-movably coupled within the passageway of the duct such that the first end of the third wing is positioned along the plane within the passageway of the duct substantially perpendicular to the direction of travel of the gas stream through the passageway;

a third nozzle to discharge a mixture into the passageway, the third nozzle located adjacent the edge of the second end of the third wing such that the third nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the third wing.

63. (Previously Presented) The gas stream vortex mixing system of Claim 62, further comprising:

a fourth wing having a first end, a second end and configured to shed a vortex at an edge of the second end of the fourth wing, the fourth wing non-movably coupled within the passageway of the duct such that the first end of the fourth wing is positioned along the plane within the passageway of the duct substantially perpendicular to the direction of travel of the gas stream through the passageway; and

a fourth nozzle to discharge a mixture into the passageway, the fourth nozzle located adjacent the edge of the second end of the fourth wing such that the fourth nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the fourth wing.

64. (Previously Presented) The gas stream vortex mixing system of Claim 63, wherein the duct further include a plurality of walls and wherein the first and second wings are non-moveably coupled to an opposing first and second walls, respectively, within the duct and wherein the third and fourth wings are non-moveably coupled to an opposing third and fourth walls, respectively, within the duct such that the first ends of the first, second, third and fourth wings are located along the plane in the passageway of the duct.

65. (Previously Presented) The gas stream vortex mixing system of Claim 64, wherein first, second, third and fourth wings are further defined as cambered wings.

66. (Previously Presented) The gas stream vortex mixing system of Claim 64, wherein the first, second, third and fourth nozzles are positioned to discharge the mixture in the direction of travel of the gas stream through the passageway of the duct to promote mixing of the mixture with the gas stream.

67. (Previously Presented) The gas stream vortex mixing system of Claim 64, wherein the first, second, third and fourth nozzles are positioned to discharge the mixture in a direction substantially opposite the direction of travel of the gas stream through the passageway of the duct to promote mixing of the mixture with the gas stream.

68. (Currently Amended) A vortex mixing system for mixing a combustion gas exhaust, the vortex mixing system comprising:

a combustion exhaust duct provided with an inner surface defining a passageway for communicating a combustion gas exhaust;

a first wing having a first end, a second end, an upper surface, a lower surface and configured to shed a vortex at an edge of the second end of the first wing, the first wing non-movably coupled within the passageway of the combustion exhaust duct such that [[a]] the first end of the first wing extends into the passageway and is located along a plane within the passageway of the combustion exhaust duct, the plane substantially perpendicular to a direction of travel of the combustion gas exhaust through the passageway~~, and wherein the first wing having a uniform thickness between the upper and lower surfaces extending from the first end to the second end of the first wing~~;

a second wing having a first end, a second end, an upper surface, a lower surface and configured to shed a vortex at an edge of the second end of the second wing, the second wing non-movably coupled within the passageway of the combustion exhaust duct such that [[a]] the first end of the second wing extends into the passageway and is located along the plane within the passageway of the combustion exhaust duct substantially perpendicular to the direction of travel of the combustion gas exhaust through the passageway,

~~and wherein the second wing having a uniform thickness between the upper and lower surfaces extending from the first end to the second end of the second wing~~;

a first nozzle to discharge a mixture into the passageway, the first nozzle located adjacent the edge of the second end of the first wing such that the first nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the first wing, the first nozzle further positioned to discharge the mixture in a direction opposite the direction of travel of the combustion gas exhaust through the passageway; and

a second nozzle to discharge a mixture into the passageway, the second nozzle located adjacent the edge of the second end of the second wing such that the second nozzle discharges the mixture into the vortex at a point wherein the vortex is shed by the edge of the second end of the second wing, the second nozzle further positioned to discharge the mixture in the direction opposite the direction of travel of the combustion gas exhaust through the passageway.